

Statistical Brief



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Comparison of Prenatal Smoking Recorded on Birth Certificates with Responses from the Corresponding PRAMS Surveys of New Mothers in North Carolina

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Introduction

Birth certificates have been used extensively to examine risk factors for low birth weight, preterm birth, and infant mortality. Prenatal smoking has been established as a key risk factor for these adverse birth outcomes.^{1,2} Birth certificate data have also been used to target demographic groups and geographic areas for prenatal smoking reduction interventions.³ A previous study in North Carolina found that there was good agreement between tobacco use during pregnancy on a sample of 1989 birth certificates and the corresponding medical records.⁴ Given the wide use of the prenatal smoking data from birth certificates, we undertook this study to further assess this smoking information.

Methods

The smoking information on birth certificates may be collected in different ways, depending on the practices of the hospital. Ideally, the prenatal medical records would be consulted to gather this information. Sometimes the mother is asked directly whether she smoked during pregnancy and this information is recorded on the birth certificate. The birth certificate asks whether the mother smoked at any time during pregnancy (yes or no), and if yes,

how many cigarettes per day. Our evaluation of the smoking information considers only the yes/no question and not the quantity of smoking.

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a survey of new mothers in North Carolina. Sponsored by the Centers for Disease Control and Prevention (CDC), PRAMS is currently conducted in 37 states, New York City, and the Yankton Sioux Tribe in South Dakota. In North Carolina, a random sample of live birth certificates is selected on a monthly basis for PRAMS and these mothers are contacted by mail, with telephone follow-up for those who do not respond by mail. The response rate for PRAMS is about 70 percent; approximately 1,500 interviews are completed each year. (See www.schs.state.nc.us/SCHS/prams/ for more information about North Carolina PRAMS.)

In the PRAMS survey, mothers are interviewed 3 to 5 months after the births of their babies and are asked: "In the last 3 months of your pregnancy, how many cigarettes did you smoke on an average day?" For this study, if the mother reported any response other than "none" she was considered to have smoked during pregnancy. Note that the PRAMS survey asks about smoking during the last three months of pregnancy, whereas the birth certificate asks about smoking at any time during pregnancy. So the information from the two sources is not exactly comparable.



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